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(54) **Time based scheduler architecture and method for ATM networks**

(57) A flexible and scalable architecture and method that implements dynamic rate control scheduling in an ATM switch. The scheduler shapes a large number of streams according to rate values computed dynamically based on switch congestion information. To handle a large range of bit rates, a plurality of timewheels are employed with different time granularities. The streams are assigned dynamically to the timewheels based on computed rate values. The shaper architecture and method supports priority levels for arbitrating among streams which are simultaneously eligible to transmit.

Specifically, a scheduling timestamp is determined by the scheduler in consideration of a dynamic rate varied in dependency upon congestion information, a peak cell rate, and/or a sustainable cell rate, and a burst threshold while a shaping timestamp is also determined with reference to the scheduling timestamp determined by the above-mentioned manner. The scheduler may shape a stream in accordance with a rate determined by an ABR mechanism along with the dynamic rate.

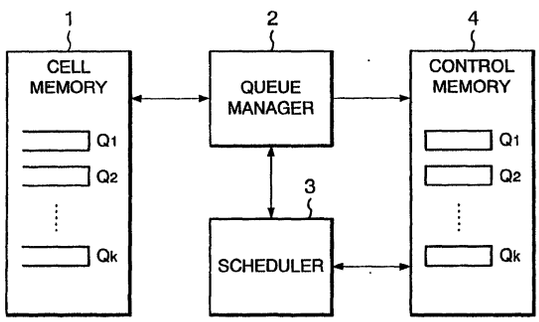

Fig.1

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EUROPEAN SEARCH REPORT

Application Number
EP 99 10 5474

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	WO 97 14240 A (AISSAOUI MUSTAPHA ;LIAO RAYMOND RUI FENG (CA); NEWBRIDGE NETWORKS) 17 April 1997 (1997-04-17) * claims 1,3-5 *	1-33	H04L12/56 H04Q11/04
A	OHBA Y: "QLWFQ: A QUEUE LENGTH BASED WEIGHTED FAIR QUEUEING ALGORITHM IN ATMNETWORKS" KOBE, APRIL 7 - 12, 1997,LOS ALAMITOS, CA: IEEE COMPUTER SOC,US, 7 April 1997 (1997-04-07), pages 566-575, XP000859121 ISBN: 0-8186-7782-1 * page 567, left-hand column *	1-33	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

H04L
H04Q

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	29 September 2000	Veen, G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 10 5474

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29-09-2000

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